

### **Abstract**

A process for producing isoprene is provided, which includes continuously or intermittently supplying isobutylene and/or t-butanol, formaldehyde and water into an acidic aqueous  
5 solution, and reacting the reaction mixture while distilling away a mixture containing produced isoprene, water, unreacted starting materials and other low boiling point components from this reaction mixture to the outside of the reaction system, wherein the reaction is carried out while controlling the  
10 concentration of high boiling point byproducts, which is produced and accumulated in the reaction mixture, to fall within the range of 0.5 - 40 mass%.